Attention Deficit/Hyperactivity Disorder in School-Aged Children and the Impacts on Social Skills

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Abstract

Attention deficit-hyperactivity disorder (ADHD) is one of the most prevalent disorders among school-aged children. Assessment and diagnosis of ADHD is a complex and controversial topic, with many individuals involved in the process. Parents, teachers, physicians, and school professionals need to be familiar with the symptoms of ADHD, and the potential setbacks related to the disorder. These children face many challenges with restlessness, impulsivities, and organization, as well as difficulties with the appropriate development of social skills. Students with ADHD have a greater likelihood than same-aged peers to develop social skills deficits, which can lead to many barriers in life. These barriers may include peer rejection, academic underachievement, and maladjustment. Social skills interventions designed to teach and develop social skills have not consistently produced significant improvements in children with ADHD. The variance present in research surrounding effectiveness of social skills training programs for children with ADHD is a critical issue that requires additional research.

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Chapter I: Introduction

Attention-deficit hyperactivity disorder (ADHD) is a childhood disorder that impacts 3% to 5% of school age children (Barkley, 2006). Characteristics of ADHD include challenges with inattention (ADHD-I), impulsivity and hyperactivity (ADHD-HI), or a combination (ADHD-C) of all three. In addition to said difficulties, children diagnosed with ADHD face challenges in academic success and personal development, as well as acquiring social skills.

ADHD is believed to develop during early childhood and often continues throughout adolescence and adulthood. Although the exact cause of ADHD is not known, many causal factors have been implicated, including hereditary, neurological, pre- and post-natal factors, and toxic influences (Brown, 2000). According to Barkley (2006), ADHD occurs more frequently in family members of individuals who have been diagnosed with the disorder, which suggests that there may be a hereditary component involved. The neurological component suggests that underactivity in specific regions of the brain is involved in attentional processes and inhibitory responses. Further, symptoms of ADHD occur more frequently in children who have been exposed to complications during gestation and pregnancy, or high levels of lead. Environmental factors, such as chaos in the home, negative reinforcement of hyperactive behaviors, and family dysfunction or traumatic stress have not been linked to a direct cause of ADHD, but these factors may worsen symptoms that are already present.

The diagnosis of ADHD is determined by the presence of socially disruptive behaviors that are either attentional or hyperactive. These symptoms are displayed before the age of seven and must be present for at least six months (Landau & Moore, 1991). The three subtypes of

ADHD are categorized according to the presence of one or both of the hyperactive-impulsivity and inattention factors (Brown, 2000).

According to the American Psychiatric Association (2000), ADHD predominately inattentive type (ADHD-I) includes symptoms that are internal and sometimes difficult to detect. These symptoms include difficulty maintaining attention in tasks or play, easily distracted by extraneous stimuli, has difficulty organizing tasks and activities, fails to give close attention to details or makes careless mistakes, and does not seem to be listening when spoken to directly. Many of these symptoms greatly inhibit an individual's daily life, specifically in the area of academic performance and social skill development. Children with ADHD/I are commonly socially withdrawn and often display symptoms of anxiety and depression (Fenstermacher, Olympia, & Sheridan, 2006).

Diagnostic features for ADHD predominately hyperactive/impulsive (ADHD-HI) are visible and external behaviors including fidgeting with hands/feet or squirming in seat, blurts out answers before questions have been completed or before being called on, runs or climbs excessively in situations that are inappropriate, and often has difficulty playing or engaging in leisure activities. These behaviors can be distracting to the child diagnosed with ADHD, but also to those around that child, including classmates.

Individuals who are diagnosed as ADHD combination type (ADHD-C) must possess six or more symptoms from each cluster (National Institute of Mental Health, 2010). This subtype is the most commonly diagnosed, which presents teachers, parents, and others who interact with children with ADHD-C with great challenges.

ADHD is more commonly diagnosed in males than females, with a male-female ratio ranging from 3:1 to 9:1 (Thorell & Rydell, 2008; Brown, 2000). The large representation of

males who are diagnosed with ADHD may be explained by the variation of symptoms present between males and females. Males are more likely to exhibit hyperactive, aggressive, and impulsive symptoms than females are. Since these symptoms are easily noticed and are more disruptive than the inattentive behaviors that females more commonly display, males are referred for assessment at a higher rate (Brown, 2000). Despite the likelihood for males and females to fall into a typical category, all children diagnosed with ADHD face significant challenges every day. The presence of ADHD is also associated with comorbid conditions, such as learning disabilities, conduct disorder, oppositional-defiance disorder, academic underachievement, and social skill deficits (Barkley, 1998).

Many children with ADHD experience academic difficulties in the areas of work productivity and academic performance. According to Barkley (2006), teachers and parents have reported that children with ADHD underperform in academics relative to their own abilities and also when compared to their same-age peers. Cantwell and Baker (cited in Rutherford, DuPaul, & Jitendra, 2008) found that up to 80% of children diagnosed with ADHD have shown significant signs of academic performance problems, as many as 56% require academic tutoring, about 30% repeat at least one grade in school, and between 30% and 40% are placed in special education (Barkley, 2006). These numbers are very high and call for school professionals to address this significant issue. In addition to the challenges individuals with ADHD face in academics, difficulties with social skills are also of high importance to address.

Whalen and Henker (cited in Landau & Moore, 1991) found that peers have described students who have been diagnosed with ADHD as "intrusive, boisterous, annoying, irritating, and intractable" (p. 236). Although the primary symptoms of ADHD do not include difficulties with peer relationships or social skills, many children with ADHD experience these difficulties.

Approximately 50% of children diagnosed with ADHD have significant and considerable problems with social relationships (Barkley, 2006). Asher and Wheeler (cited in Landau & Moore, 1991) found that children who are rejected by their peers have reported greater feelings of loneliness and dissatisfaction, which is not very surprising. Children who experience peer rejection and disturbed peer relations are also at a high risk for difficulties later in life (Landua & Moore, 1991). According to Parker and Asher (cited in Landau & Moore, 1991), peer rejection at an early age can predict premature dropping out of school, juvenile delinquency, and troubles maintaining employment. These children have so much at stake, and many need help with proper social skill development. With such a large presence of children with ADHD in the schools, it is the role of school professionals to find effective strategies and interventions to aid in healthier social development for these children.

Statement of Problem

In addition to the challenges children diagnosed with ADHD face, they are also at an elevated risk for social skills deficits. Teachers, parents, and other school professionals are in the position to help students reach the best of their abilities, including the development of social skills. It is the responsibility of these individuals to be familiar with various interventions in order to assist in social skills development.

Purpose of the Study

The focus of this literature review is to investigate the relationship between ADHD and social skills deficits in school age children. In addition, an exploration of literature on interventions will be conducted to provide future suggestions on fostering social skills in children with ADHD. Data will be collected through a comprehensive literature review during the Fall Semester of 2010.

Research Objectives

The following research objectives are addressed in this literature review:

1. To explore the relationship between ADHD and social skill deficits in school age children.

2. To determine the social challenges children with ADHD face and the effects this has on those children.

3. To identify interventions that teachers, parents, and/or school professionals can use to improve social skills in children with ADHD.

Definition of Terms

Throughout this research paper, the following terms will be used:

Attention Deficit Hyperactivity Disorder (ADHD) – the persistent display of levels of inattention, hyperactivity, or a combination of both that are excessive for one's age group (de Boo & Prins, 2006) .

Interpersonal problems – difficulties with social communication and interaction.

Intervention – a plan developed and implemented in order to facilitate a positive change in behavior.

Peer Relationship – getting along with and being accepted by individuals who are the same age.

Peer Victimization – when one or more children engage in negative behaviors toward another child repeatedly (Olweus, 1993). Negative behaviors include: physical, verbal, or relational aggression, and involve an imbalance of power (Wiener & Mak, 2009).

School Age Children – students ages 4-18.

School Professionals – general and special education teacher(s), school psychologist/counselor, paraprofessional, and any other individuals in the education setting who work with children diagnosed with ADHD.

Self-esteem – what an individual thinks, feels, and believes about oneself.

Social Skills – skills needed to effectively communicate and interact with others.

Social Status – peer nominations of acceptance and rejection (Landau & Moore, 1991).

Assumptions of the Study

It is assumed that school age children who are diagnosed with ADHD are at a higher risk for possessing social skills deficits. These challenges are disadvantageous to individuals with ADHD, and those individuals may need assistance in developing proper social skills.

Limitations of Study

Although this study provides a review of relevant literature in ADHD and social skills, it is only a literature review. With the exception to the suggestions and implications made from the gathered information, there are not any new contributions to add to the field. Further, the implications and suggestions should be considered cautiously, as they have not been tested and are not conclusive.

Chapter II: Literature Review

This chapter will focus on different factors related to attention-deficit hyperactivity disorder (ADHD) and the influence it has on social skills in school-aged children. An overview of the symptoms of ADHD, as well as the assessment and diagnosis of ADHD are discussed. These sections are followed by issues related to a diagnosis of ADHD, including: difficulties within the school setting with academics and social skills, the link between ADHD and social skills deficits, and various interventions to improve social skills in children with ADHD.

Attention Deficit/Hyperactivity Disorder

ADHD is a developmental disorder that has rapidly become one of the most common childhood disorders present today. In fact, approximately two million children in the United States have been diagnosed with ADHD, meaning that in a classroom of 25 to 30 children, it is likely that at least one will have ADHD (Mattox & Harder, 2007). The American Psychiatric Association (2000) reported that children with ADHD exhibit developmentally inappropriate levels of inattention, impulsivity, and hyperactivity. Specific symptoms include difficulty staying focused and paying attention, and difficulty controlling behavior (Rutherford, DuPaul, & Jitendra, 2008). As a function of these symptoms, children with ADHD experience many difficulties in the school setting. Some of these difficulties include problems with behavior control, academic achievement, and the development of social skills (DuPaul & Weyandt, 2006).

Having ADHD makes it difficult for children to pay attention in class, and/or control their behaviors, which are two important characteristics that are needed to succeed in school. It is the challenge of classroom teachers and other school professionals to help these children achieve their academic potential; however, these behaviors exhibited by students with ADHD can be tiring and frustrating for teachers. Further, being off-task and impulsive, two common

characteristics of ADHD, can be distracting for other students in the classroom, resulting in more difficulties for the classroom teacher.

When looking at ADHD closer, there are distinct symptoms or characteristics that categorize the disorder into three subtypes: ADHD-I, predominately inattentive, ADHD-HI, predominately hyperactive/impulsive, and ADHD- C, combination of inattentive and hyperactive/impulsive. Each subtype presents varying challenges to the student, as well as teachers and parents.

Children who have been diagnosed as ADHD-I are typically challenged with staying focused on one thing at a time. It is also easy for these children to become bored with an activity quickly, unless they are doing something enjoyable, and shift their attention to some other stimuli (Mattox & Harder, 2007). Children who have been diagnosed as ADHD-I are rarely impulsive or hyperactive, but have an insufficient ability to pay attention. This subtype is thought to be more of a challenge to diagnose because of the inability or difficulty associated with trying to monitor someone's attention span. Further, children diagnosed with ADHD-I may be able to sit quietly and appear to be paying attention, get along better with other children and not experience the same severity of social deficits as impulsive or hyperactive children experience; however, the problems of children with inattention may often be overlooked (National Institute of Mental Health, 2010). Overlooking the problems this population of children faces is alarming, so it is important for school professionals, as well as parents and clinicians, to be aware of the characteristics associated with ADHD-I.

Characteristics of children who meet the criteria for ADHD-HI, specifically hyperactive children, often experience difficulties doing quiet tasks or activities, sitting still during meals, school, or story times, and are constantly in motion. Impulsive children are typically very

impatient, often interrupt other individual's conversations, and often do not think before they act (National Institute of Mental Health, 2010). Children diagnosed with ADHD-HI may be mistaken by teachers or parents as individuals with emotional or disciplinary problems and could go undetected. Further, Landau and Moore (1991, p. 235) suggested that social problems may be a "hallmark" characteristic of the disorder. This raises concern over the emotional, psychological, and academic well-being of children diagnosed with ADHD-HI.

ADHD-C, which requires a child to have six or more inattentive symptoms and six or more hyperactive/impulsive symptoms present, is the most common subtype found in children (National Institute of Mental Health, 2010). This presents school professionals with the great challenge of addressing problems related to inattention and hyperactivity/impulsivity.

Characteristics of ADHD become apparent over the course of many months, usually with impulsiveness and hyperactivity appearing first. Inattention symptoms most often come later in development, if at all, and may not even be observed for a year or longer (Mattox & Harder, 2007). It is well known by school professionals that all children at one time or another just cannot sit still, may daydream, or do not think about their actions. It is when a child's behaviors related to attention, hyperactivity, and impulsivity begin to interfere with school performance, social skills development, and peer relationships, or behaviors at home, that ADHD may be the presenting issue.

Although it is not the direct role of school professionals to diagnose ADHD (only clinicians and specialists are qualified to diagnose ADHD), it is crucial that the characteristics of each subtype are well-known and can be recognized. Recognition of key characteristics can help with earlier detection of ADHD, which can lead to earlier implementation of an intervention. Many interventions surrounding ADHD are intense, extensive, and personalized to the unique

child. Information gathered during the assessment process is important to consider when developing an intervention. The more data collected on a student, the more likely an intervention will be effective in helping the child manage his or her behaviors.

Assessment and Diagnosis of ADHD

This disorder becomes apparent in most children around the preschool and early school years (Mattox & Harder, 2007). As mentioned above, the main characteristics of ADHD are inattention, hyperactivity, and impulsivity; characteristics which are common in most children at a young age. It is this commonality of characteristics among all children that makes ADHD difficult to diagnose. Since it may be difficult to distinguish symptoms severe enough to qualify as ADHD, it is crucial that the child in question receives a thorough examination and an appropriate diagnosis by a trained professional (Mattox & Harder, 2007).

There are many assessments used today to determine whether or not a child has ADHD. According to Brown (2000), the most frequent tools used to assess children suspected of having ADHD are the Behavior Assessment System for Children (BASC; Reynolds & Kamphaus, 1992) and the Child Behavior Checklist system (Achenbach, 1991).

The BASC is suitable for children ages four through 18 and it consists of parent, teacher, and student-completed rating scales and includes forms for history and observation. It provides information on both problem and adaptive behaviors, and looks at the severity of many factors, including attention problems, hyperactivity, conduct problems, anxiety, and depression. Social skills, leadership qualities, study skills, and learning problems are also areas that are measured by the BASC (Brown, 2000).

The Child Behavior Checklist includes parent, teacher, and youth self-report forms suitable for students ages four through 18. These scales look at attention problems, aggressive

behaviors, social deficits, anxiety, and depression (Brown, 2000). All of the scales on this assessment are integrated to provide a good picture of the student's abilities and difficulties.

Behavioral observations are one of the most important components when assessing a student for ADHD. They involve observing the child in the classroom or during a simulated academic or social situation in an office, clinic, or other controlled environment (Brown, 2000). The data collected from a direct observation can be helpful when designing and evaluating interventions, because the more data gathered on an individual, the easier it is to determine what behaviors are present, if those behaviors are present across different environments and situations, and how he or she reacts to different reinforcement approaches. The excessive time and cost of direct observation are two difficulties associated with direct observation, but the biggest drawback would be reactivity of the child being observed. Reactivity is where the individual being observed changes behaviors that he or she normally engages in just because he or she is being observed (Antshel & Remer, 2003). This could result in a misdiagnosis, either diagnosing a child with ADHD who does not meet the criteria, or not diagnosing a child who meets the criteria when not being observed. Fortunately, however, a direct observation is not the only component used when diagnosing ADHD.

Clinical interviews are the most frequently used method in the assessment process for ADHD (Batsche & Knoff, 1994). Well conducted interviews are helpful in establishing rapport that is needed when implementing interventions, and also gives the interviewer broad information about the child in question. There are typically three groups of people who are involved in the interviewing portion of the assessment process: student, parent(s), and teacher(s). Including other individuals who the child interacts with on a regular basis would be beneficial

when gathering data, as those people are going to have a more accurate picture of what the child's behaviors are like on a day-to-day basis.

Student interviews elicit useful information from the perspective of the child. According to Edwards, Schultz, and Long (cited in Brown, 2000), children, especially over the age of 10, are able to reliably report their behaviors. When looking at internalizing and externalizing behaviors, however, children are more reliable at reporting internalizing symptoms and thoughts. To help gather information about specific behaviors, it is beneficial for the clinician to ask questions about certain behavioral problems at home and school, social skills and peer relationships, and academic performance. This data will be useful in the overall assessment process.

The purpose of parent and teacher interviews is to gather valuable information about the child's past and present experiences at home and in the school setting. Parents are asked to provide details about the child's developmental history, medical history of child and other members in the family presence, frequency of behaviors related to ADHD, and the levels of distress that are occurring with the family and child (Brown, 2000). Teacher interviews are focused on describing in detail the difficulties the child is experiencing with academic performance, behavioral symptoms, and peer relationships. Learning when and in what situations difficult behaviors occur and what consequences follow is beneficial for the interviewer to determine (McConaughy, 1996).

Although assessment and diagnosis of ADHD are not the primary roles of school professionals, knowing how the process works will be beneficial. Since school professionals, such as teachers and school psychologists, play such a large role in helping with the evaluation process, knowing the logistics and varying steps involved will help them further assist these

students. The assessment and diagnosis process is important, not only in determining whether or not a student meets the criteria for ADHD, but also in gathering valuable information that can help school professionals determine how they can assist students reach their full academic and social potential.

Difficulties within the School Setting: Academics and Social Skills

Academic success is shaped by many factors, including the presence of ADHD. Most children who have been diagnosed with ADHD have difficulties in school, especially in the areas of work productivity and overall academic achievement (Rutherford, DuPaul, & Jitendra, 2008). As mentioned before, a large number of students have been diagnosed with ADHD. Of all the students diagnosed with ADHD, up to 80% have exhibited difficulties with academic performance (Rutherford, DuPaul, & Jitendra, 2008). According to Barkley (2006), approximately 56% of students with ADHD receive academic tutoring to help combat academic difficulties, about 30% experience grade retention, and between 30% to 40% are placed in special education. In addition, students with ADHD are at a higher risk of dropping out of school, and have a lower rate of attending college or other post-secondary education (DuPaul & Weyandt, 2006).

The many difficulties students with ADHD have with academic performance have been linked to the symptoms accompanying the disorder, but have also been linked to social skills deficits related to ADHD. Hinshaw (1992) addressed the relationship between academic performance and externalizing behaviors and suggested various models in an attempt to clarify this relationship. First, he considered the possibility that academic underachievement leads to or creates externalizing behavior, which suggests that when a student is challenged with an academic task, he or she may engage in disruptive behaviors in order to avoid or escape that

particular task. In contrast, Hinshaw suggested that externalizing behavior may influence and lead to academic underachievement, meaning that a student may be so off-task and disruptive that he or she may not be engaged in the academic task, and therefore not gaining an understanding of the task to be completed or the subject being taught. The last model that Hinshaw proposed was that externalizing behavior and academic difficulty or underachievement directly influences one another.

These models are helpful in that they are looking at different implications of ADHD symptoms and how they affect a child socially and academically. Further, Rutherford, DuPaul, and Jitendra (2008) suggested that these models are beneficial to address because they may assist in developing appropriate interventions that may improve social and academic skills. This is because each model magnifies a different target behavior for the intervention to address.

ADHD and Social Skills Deficits

Children with ADHD often experience problems in social interactions with peers. This can lead to peer rejection, and ultimately social isolation (de Boo & Prins, 2006). Social problems may not be the first concern associated with ADHD that comes to mind, however, this topic is becoming more important amongst educators and parents of children diagnosed with ADHD. Unfortunately, little gains have been made in determining how to help children with ADHD develop proper social skills and maintain appropriate social relationships with peers.

In 1991, Landau and Moore addressed this prominent issue, suggesting that severe social incompetence and peer relationship difficulties were symptoms displayed by many children with ADHD, yet there was not a lot of research surrounding this issue. Certain characteristics of ADHD, such as interrupting conversations and classroom discussions, appearing like they are not

listening when being spoken to, often not thinking about their actions, and having difficulties taking turns, contributed to social skills problems and peer rejection.

Newcomb, Bukowski, and Pattee (cited in Nixon, 2001) found that more popular children, in comparison to those who are rejected, have distinct behavioral tendencies that influence interactions with their peers. Specific behaviors that were found to be associated with peer rejection included: verbal and physical aggression, disruptive attempts to enter a conversation or activity, and negative classroom behaviors, including being off-task, violating the classroom rules, and being noisy and quick-tempered. Given what is known about the symptoms that children with ADHD experience and comparing those symptoms to the aforementioned behaviors associated with peer rejection, it is not surprising that children with ADHD often experience difficulties with peer relationships.

It is estimated that 50% to 80% of children diagnosed with ADHD can also be labeled as being rejected or socially isolated from their peers. In comparison to their peers, children with ADHD are more likely to be rated as intrusive, argumentative, and awkward in social interactions. In the classroom setting, teachers have rated students with ADHD as more interfering, noncompliant, and aggressive than other children in the classroom (McQuade & Hoza, 2008). Although most children with ADHD experience difficulties with social interactions, past research has suggested that severity of social skills deficits can vary depending on subtype.

Hodgens, Cole, and Boldizar (2000) reported that peers were more likely to actively reject children who have been diagnosed with ADHD-C and labeled them as more likely to instigate an argument. Children diagnosed as ADHD-I, however, were found to be socially isolated, and labeled as shy by peers at a higher rate than typical children, or children diagnosed

as ADHD-C. Similar to these findings, Maedgen and Carlson (cited in McQuade & Hoza, 2008) determined that adults typically rated children with ADHD-C as more aggressive, and often labeled children with ADHD-I as more passive. When looking at emotional reactions, it was reported that children with ADHD-C were more likely to demonstrate heightened positive and negative emotional reactions, which may suggest that these children face challenges with regulating emotions.

According to Wiener and Mak (2009), children diagnosed with ADHD were more likely to report being involved in peer victimization than comparison children. Students reported that victimization occurred in physical, verbal, and/or relational (ie. gossip, social isolation) forms with girls with ADHD reporting being involved in peer victimization most frequently. In addition, teachers and parents reported that children with ADHD bullied other students more frequently than students without ADHD, with boys bullying more often than girls. Bullies are often seen as impulsive and disrespectful, which are symptoms that often accompany ADHD (Olweus, 1995). It was suggested that many times children with ADHD were perceived by teachers and parents as victims, bullies, or bully/victims. Almost 58% of children with ADHD, between the ages of nine and 14, bully others, experience victimization, or both, compared to only 13.6% of peers (Wiener & Mak, 2009).

Some children with ADHD experience victimization, but also engage in behaviors that could be classified as bullying, also referred to as bully/victims. According to Olweus (cited in Wiener & Mak, 2009), these children tend to have characteristics similar to victims, such as low self-esteem, depression, and anxiety, but also display characteristics similar to bullies, such as aggression and dominance. Unfortunately, children who are perceived as bully/victims are far

more likely to be rejected by their peers and face a higher risk of maladjustment than those who are only victimized or only bullying (Schwartz, 2000).

Interestingly, children with ADHD were able to report being victimized at a higher rate than peers; however, these children did not report bullying or threatening other students. As stated before, parents and teachers reported that students with ADHD *do* engage in bullying more frequently than comparison children, so why is there a disconnect between what children with ADHD are reporting and what parents/teachers are reporting when it comes to solely bullying? Wiener and Mak (2009) thought that children with ADHD might lack insight into their actual actions and behaviors towards others, and may not see their actions as negative, or bullying. Another thought, proposed by Shea and Wiener (2003), is that teachers and parents may be seeing actions that look like bullying in children with ADHD; however, these aggressive actions may be responses to being victimized by peers. Regardless of the reasoning behind a higher rate of bullying, it is noteworthy and important to address victimization and bullying for children with ADHD.

Reviewing past literature provides insight into the varying degree of social deficits that children with ADHD exhibit, and magnifies the fact that this disorder is heterogeneous, making it very difficult to treat. Interventions have been developed to help improve social skills in children with ADHD, but the effectiveness of such interventions varies from child to child. Determining the level of social competence in each child and the need for an intervention is crucial before selecting and implementing an intervention. It would also be beneficial to determine other areas that social skills deficits may be affecting a student with ADHD, including academics, when selecting an appropriate intervention.

Interventions to Improve Social Skills in Children with ADHD

The high rate of social skills deficits among children with ADHD is alarming, and raises concern for educational professionals, parents, and students. Addressing these deficits and working with children to help improve social skills is important and imperative if these children are to be as successful as possible in their life. Social skills impact an individual's life in so many ways, such as academic success, employment opportunities, and effectively communicating with significant others, among many other areas. Since children with ADHD often have social skills impairments, educators need to be working together to assist these children in the development and performance of these skills. Many studies (DuPaul & Stoner, 2003; DuPaul & Weyandy, 2006; Antshel & Remer, 2003) have implemented social skills training for students diagnosed with ADHD. The effectiveness of these interventions seem to vary (DuPaul & Weyandt, 2006) by intensity, duration, external factors (such as medication), as well as consistency and group size. Given the heterogeneity of these programs, several social skills training programs will be discussed, as well as the benefits, limitations and implications for each.

Antshel and Remer (2003) conducted a study evaluating the efficacy of social skills training on 120 children (90 males, 30 females) diagnosed as ADHD-I or ADHD-C. These children were grouped into ten groups, consisting of 75% males and 25% females. Five of the 10 treatment groups consisted of homogenous subtypes of ADHD (either all ADHD-I or all ADHD-C), and the remaining five groups were heterogeneous (both ADHD-I and AHDH-C). The children attended eight, 90 minute, social skills training sessions taught by the same two individuals each session. During the eight week sessions, target social skills were modeled, role played, and coached in an attempt to increase social awareness and performance among these

children. The target social skills included cooperation with peers, problem-solving, recognizing and controlling anger, assertiveness, conversations, and accepting consequences. These target skills were chosen because these were the most common deficits children with ADHD exhibited when interacting with peers, according to Hinshaw (1992). Parents were involved in rating their child's social skills pre-treatment, during treatment, post-treatment, and during a follow-up. The children involved in the study also rated their social skills. After reviewing these ratings, the results were not able to support the efficacy of this social skills training program. Small gains were made in the heterogeneous groups in the areas of assertion and cooperation, as well as empathy skills. Further, no parents rated their children as having worse behaviors following the program (Antshel & Remer, 2003).

Another social skills training program, implemented by Gol and Jarus (2005) attempted to increase the abilities of children with ADHD to function better in their everyday lives, specifically linked with occupational therapy. Nine children with ADHD were randomly selected to participate in the social skills training, and 10 children without ADHD were randomly selected to serve as a control group. The program consisted of 15 weekly sessions, lasting one hour each. Each session introduced a social theme, with the goal of acquiring skills in listening, taking turns, and learning how to deal with irritation from others. Activities were selected for each session to require participants to use the skill being targeted that week. For example, one week an activity would include a game that required the children to wait and take turns. During the last 15 minutes of a session, parents would join and receive information about the session, homework for their children, and guidance on practicing skills at home. Results from this study showed that the social skills training program was found to be effective. Children with ADHD were able to function in their daily lives as good as, or better than children without ADHD who

did not participate in the program, suggesting that the intervention impacted this improvement in skills (Gol & Jarus, 2005).

When looking at the success of this study, it is important to keep in mind the relatively small participant size. Another important distinction to make is this study's measurement of an increase in functioning of daily skills, because of social skills training. In other words, this study did not directly measure social skills growth, but rather adaptive skills growth attributed to a supposed increase in social skills.

Fenstermacher, Olympia, and Sheridan (2006) reviewed computer-mediated social skills training, which uses computer technology and video to create social simulations. Some advantages of using computer-mediated training is that a computer is able to consistently present social situations and interactions, without human error. Further, a computer replication of a social interaction can be stopped at any time to provide more instruction, and also provides an opportunity for social skills to be taught to an individual rather than a group. Individual treatment, in comparison to group treatment, may be beneficial for certain students because they are able to avoid any negative effects of group treatment, such as adopting undesirable traits of other students in the treatment program, developing identification with deviant peers, or an integration of deviant or negative values (Fenstermacher et al., 2006).

One example of a computer-facilitated social skills training was conducted by Carroll (cited in Fenstermacher et al., 2006), and included video-based scenarios of classroom social behaviors. Seventy-two children with ADHD viewed these vignettes, and could choose appropriate, neutral, and inappropriate behaviors. Results of this study suggested that students with ADHD displayed higher levels of attention and comprehension of social skills, especially when given the opportunity to choose potential student responses.

Although computer-mediated social skills training programs can be effective, there are limitations that are significant and should be taken under consideration before implementing with any students. There is a lack of research evaluating the ability to generalize learned social skills into a different environment (Fenstermacher et al., 2006). Children with ADHD may learn social skills and be able to use them effectively in an isolated, computer-facilitated environment, but when they are in a natural environment like the school or home setting, the same results are not consistently found. Another important implication associated with computer-facilitated training is that it involves individual training, instead of group training. As stated before, individual training has its advantages; however, skills that can be obtained from group interaction may be more valuable. Group-facilitated social skills programs have the benefit of real-life interaction with peers, thus making any effects more likely to be generalized into different settings (Fenstermacher et al., 2006). As with any intervention, it is beneficial to consider the benefits and limitations before trying it with a student, as well as the unique characteristics of the student in question. One intervention may be effective for one student with ADHD, and ineffective for another.

After reviewing common interventions used with children with ADHD, ranging from social skills training in a group setting to an individual setting, many variables tend to affect the outcome of such interventions. What seems to be consistent among studies is that no single intervention for children with ADHD is entirely effective, due to the great variance in symptoms. Barkley (1998) suggested that multiple interventions across multiple settings over longer periods of time, is what is needed to help facilitate change in children with ADHD. Further, when pharmacological treatment, psychosocial, behavioral, and cognitive treatment are combined, the most changes are seen (Fenstermacher et al., 2006). Another factor that influences the

effectiveness of different interventions is the communication among parents, physicians (if on medication), teachers, and other educational professionals working with students with ADHD. Increased communication will help facilitate a common treatment approach across settings, and will help decrease the chance that multiple interventions (i.e. medication and a behavioral intervention) are removed or changed (DuPaul & Weyandt, 2006).

There are still many unanswered questions revolving around the best way to help facilitate social skills growth in children with ADHD. Many intervention ideas are present within the literature; however, studies supporting significant positive changes among students are rare. More research needs to be completed on social skills training and the ability to generalize skills in varying settings. Assisting children with ADHD develop appropriate social skills is crucial for success later in life, and it is imperative that educators continue to explore different approaches and interventions to use to help these students succeed.

Chapter III: Summary, Critical Analysis, and Recommendations

This chapter will provide a summary of the findings discussed in Chapter Two related to attention-deficit hyperactivity disorder , assessment of ADHD, difficulties within the school setting, the impacts ADHD has on social skills, and interventions to improve social skills in children with ADHD. Following a summarization of Chapter Two, a critical analysis of the findings are provided. Chapter Three will conclude with recommendations to school professionals, as well as future research proposals.

Summary

Chapter Two began with an overview of attention-deficit hyperactivity disorder, including the prevalence of the disorder in the United State of America, as well as the American Psychiatric Association (APA, 2000) definition of the disorder. The APA stated that children with ADHD exhibit inappropriate levels of inattention, impulsivity, and hyperactivity when compared to their same-aged peers. The three subtypes of ADHD, predominately inattentive (ADHD-I), predominately hyperactive/impulsive (ADHD-HI), and combination (AHDH-C) were discussed, as well as key symptoms that are used to classify each subtype. The specific challenges that each subtype presents in children were examined, as well as when symptoms become apparent and begin to interfere with academic and social functioning.

The complex topic of assessment and diagnosis was discussed next, highlighting different levels in the evaluation process. Two common assessment tools, the BASC and the Child Behavior Checklist, were described and the process of behavioral observations and clinical interviews were discussed to provide insight for school professionals. Although assessment and diagnosis of ADHD are not the primary responsibility of school professionals, and only for qualified clinicians and specialists, these school professionals will be involved in the evaluation

process, as well as implementation of the intervention(s). Therefore, familiarity with each level of data collection is beneficial for school professionals to know. Important information of the child in question is gathered during this process, so it is crucial that all parties involved are aware of ADHD assessment.

Following assessment and diagnosis of ADHD, the difficulties that students with ADHD have in the school setting, specifically the link between academics and social skills, were addressed. The hallmark symptoms that students diagnosed with ADHD often display are directly linked to lower academic success than students without ADHD (Rutherford, DuPaul, & Jitendra, 2008). Lower academic success decreases the likelihood for continuing education and increases the rate of dropping out of school prematurely (DuPaul & Weyandt, 2006). In addition to the symptoms of ADHD that impact academic performance, Hinshaw (1992) also generated several hypotheses about the impact of social skills on academic performance. Academic underachievement may create externalizing behaviors in students, off-task and disruptive behaviors preventing a student from engaging may lead to academic underachievement or academic difficulties, and externalizing behaviors directly affect one another. The relationship between academic performance and social skills needs to be explored further in order help children with ADHD succeed in school.

Social skills deficits that children with ADHD experience were examined and analyzed in the next section of Chapter Two, which helps explain the impact social skills have on academics, as well as other areas of functioning. There was an extensive amount of literature that has provided evidence suggesting that the core symptoms of ADHD, inattention, hyperactivity, and impulsivity, are linked with social difficulties and peer rejection. Both students and adults have labeled children who possess ADHD-like symptoms as having

difficulties engaging in social interactions. Further, research (Wiener & Mak, 2009; Schwartz, 2000; Shea & Wiener, 2003) suggested that peer rejection and social isolation have been found to increase difficulties in adolescence and adulthood, as well as impact academic achievement. According to Wiener and Mak (2009), students with ADHD experience a higher rate of peer victimization, as well as engaged in more bullying behaviors than their same-aged peers. Students who bully, are victims of bullying, or experience both victimization and engage in bullying (bully/victim) are at a heightened chance for maladjustment and rejection from peers later in life (Schwartz, 2000). It is imperative that the affects that ADHD has on social skills development in school age children need to be further examined, as well as what school professionals can do to assist children with ADHD in achieving their highest academic and social potential.

The last section discussed in Chapter Two explored different interventions that have been developed and implemented to improve social skills in children with ADHD. Social skills training programs were examined, and differing results were found when looking at social skills improvement. Common interventions found in the literature were social skills training programs, where there were typically a set amount of sessions, each one focusing on a specific social skill. These social skills programs taught social skills, required participants to role play, and also contained homework and parent involvement. Two studies reviewed (Antshel & Remer, 2003; Gol & Jarus, 2005) measured the effectiveness of social skills training programs and found that these programs did not significantly increase development of social skills in children with ADHD. Gol and Jarus (2005) did find that adaptive skills improved from social skills training, but whether or not social skills were improved was not measured. Another intervention addressed was computer-mediated social skills training. Fenstermacher, Olympia, and Sheridan

(2006) found that computer-mediated social skills training did increase the levels of attention and comprehension of social skills in students with ADHD; however, it was difficult for students to generalize these learned social skills into different environments.

The abundance of research suggesting a greater likelihood of social skills deficits in students with ADHD and the lack of effective interventions to improve those social skills is a significant issue. Further studies must be conducted to move towards more effective interventions.

Critical Analysis

The highlighted research addressed within this literature review was evidence that children with ADHD are at a greater disadvantage than their peers in many areas, including social functioning. The ambiguity of assessments and effectiveness of interventions addressing the needs of children with ADHD continues to be a concern of parents, clinicians, and school professionals alike. Further, the heterogeneity of ADHD and the vast symptoms that manifest themselves differently in each child needs to be considered when designing and implementing interventions.

The links between ADHD and social skills deficits have been highlighted by many authors. Landau and Moore (1991) were among the first to suggest the impact of these social skills deficits on students with ADHD, which generated many studies supporting this correlation. Hodgens, Cole, and Boldizar (2000) found that peers were more likely to reject children with ADHD, and McQuade and Hoza (2008) found a higher likelihood for teachers to report children with ADHD as having more difficulties with social interactions. Further, Wiener and Mak (2009) agreed that children with ADHD experience a greater rate of social skills deficits leading to peer victimization and bullying. With many authors agreeing that ADHD and social skills

deficits are indeed linked, effective interventions are greatly needed to assist these students in social skill development.

Many interventions have been developed to help students with ADHD decrease social skills deficits, with very little effectiveness seen across a majority of these students. Antshel and Remer (2003) developed a social skills training program for students with ADHD and found that little gains were made in social skill development. Gol and Jarus (2005) implemented a social skills training program and results from this study suggested that the social skill training did improve adaptive skills for children with ADHD, but whether or not actual social skills increased was not determined. Further, Fenstermacher, Olympia, and Sheridan (2006) examined computer-facilitated social skills training, and found that social skills did slightly increase among students with ADHD, but that there was not a high rate of generalization into different setting for these students. Due to these unfortunate findings, school professionals must continue to research, develop, and implement different interventions created to help meet the needs of individual students, as well as a collective group.

Recommendations

The following recommendations are suggested for further research regarding social skills deficits among students with ADHD:

1. Due to the fact that ADHD is rapidly becoming one of the most common childhood disorders, it is imperative that research continue in the area of social skills deficits and effective social skills training interventions. There are many different social skills training programs; however, the effectiveness of such interventions is still unclear. Thus, extensive research addressing the strengths, limitations, and overall effectiveness of social skills interventions should be completed.

2. Controversy continues to surround the diagnosis and treatment of ADHD, so it is beneficial to keep constant communication with teachers, parents, and additional support staff when determining how to help a child who has been diagnosed with ADHD. This will assist in the development and implementation of consistent interventions. Further, increased communication will help decrease the possibility of multiple changes to interventions. For example, if a physician changes a student's medication and school professionals are not informed, the specific intervention implemented in school may be rendered ineffective or effective without medication being considered.

3. In order to be more effective in selecting and implementing appropriate social skills interventions, it is crucial for school professionals to be knowledgeable on the assessment and diagnosis of ADHD. Becoming familiar with differing symptoms of ADHD is necessary for school professionals to understand and work with these students. Since the symptoms of ADHD may look very different from student to student, having a solid background of information is needed. In addition, school professionals should be aware of the social deficits related to ADHD, and the potential negative risks associated with social skills deficits, such as a higher likelihood to drop out of high school.

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